



# Distribution Standard System (DSS) DLMS Overview

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# Terminology

- DLSS – Defense Logistics Standard System  
(synonymous with “MILs”)
- DLMS – Defense Logistics Management System
- X12 – Accredited Standards Committee (ASC)
- IC – Implementation Convention (Federal)
- DS – DLMS Supplement (DoD)
- Transaction Set – X12 Transaction (ST/SE inclusive)
- “IC”, “DS”, “Transaction Set” are synonymous



# X12 Components

- ISA – Interchange Control Header
- GS – Functional Group Header
- ST – Transaction Set Header
- Transaction Set
- SE – Transaction Set Trailer
- GE – Functional Group Trailer
- IEA – Interchange Control Trailer



# DLMS X12 Transaction Example

## 856S Shipment Status (MILs AS8)

\*00\* \*10\*W25G1U \*10\*S36121 \*050309\*2113\*#\*00403\*000163987\*0  
\*W25G1U\*S36121\*20050309\*2113\*000163987\*X\*004030~  
\*0001~  
0\*ZZ\*20050309\*2113\*\*AS~  
V~  
\*M4\*N32\*\*FR~  
W~  
S\*1560010099129~  
\*EA~  
\*LT~  
N\*V0911450670001~  
G\*V0911450670001XXX~  
11\*20050309~  
\*\*M4\*SGA\*\*TO~  
~  
S8~  
V09114~  
\*J~  
1~  
P~  
I\*CF1573235473155123456123~  
0001~  
00163987~  
000163987~



# DLSS Shipment Status Example (AS8 & JANAP 128)

**Z RUSAHBZ0987 0682122 MTMS-UUUU--RUSAZZA.**

**560010099129 EA00001V0911450670001 V09114**

**068V0911450670**

**Z RUSAHBZ0987 0682122 0003-UUUU**



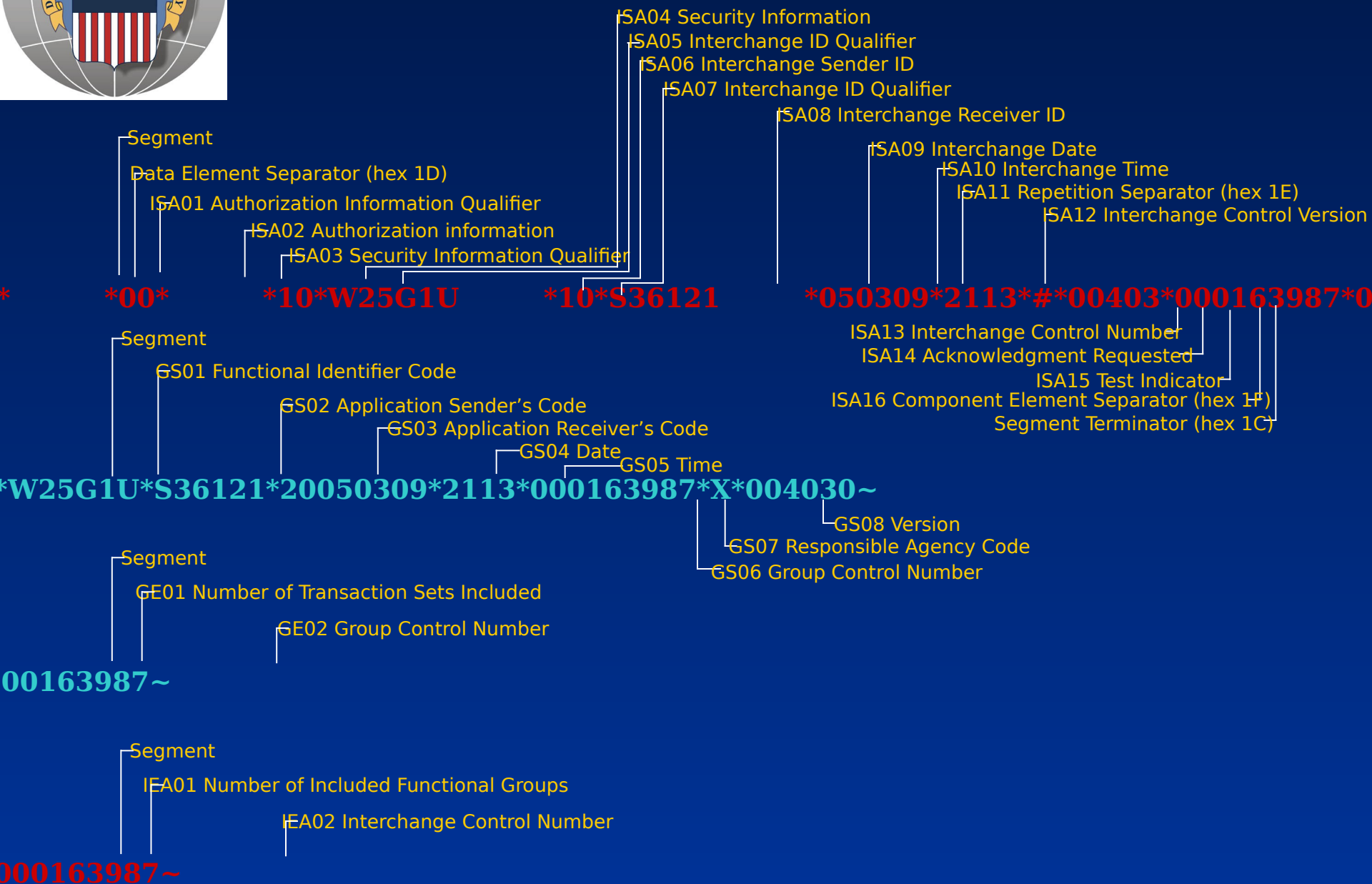
# DLMS X12 Transaction Example

## 856S Shipment Status (MILs AS8)

\*00\* \*10\*W25G1U \*10\*S36121 \*050309\*2113\*#\*00403\*000163987\*0  
\*W25G1U\*S36121\*20050309\*2113\*000163987\*X\*004030~  
\*0001~  
0\*ZZ\*20050309\*2113\*\*AS~  
V~  
\*M4\*N32\*\*FR~  
W~  
S\*1560010099129~  
\*EA~  
\*LT~  
N\*V0911450670001~  
G\*V0911450670001XXX~  
11\*20050309~  
\*\*M4\*SGA\*\*TO~  
~  
S8~  
V09114~  
\*J~  
1~  
P~  
I\*CF1573235473155123456123~  
0001~  
00163987~  
000163987~



# Envelope Segments Breakout (4030)





# 856S Transaction Set Breakout (4030)

856\*0001~ -----Transaction Set Header, 856=Identifier, Control Number  
0\*ZZ\*20050309\*2113\*\*AS~ -----Beginning Segment, Purpose, Identification, Date, Time,  
\*V~ -----Hierarchical Loop, ID Number, V=Address Information  
\*\*M4\*N32\*\*FR~ -----Name Loop, Z4=Owning ICP, M4=RIC, Data, FR=From  
\*W~ -----Hierarchical Loop, ID Number, W=Transaction Reference  
FS\*1560010099129~ -----Item Identification, FS=NSN, Data  
1\*EA~ -----Item Detail, 1=Number of Units Shipped, EA=Unit of Measure  
\*LT~ -----Carrier Detail, LT=Less than Trailer Load  
N\*V0911450670001~ -----Reference, TN=Transaction Reference Number, Data  
G\*V0911450670001XXX~ -----Reference, TG=TCN, Data  
011\*20050309~ -----Date/Time, 011=Shipped, Data  
\*\*M4\*SGA\*\*TO~ -----Name Loop, GP=Gateway Provider, M4=RIC, Data, TO=To  
\*DF~ -----Source Information, DF=DoD  
AS8~ -----Industry Code Loop, 0=DIC, Data  
\*V09114~ -----Industry Code Loop, A9=Supplementary Address, Data  
\*J~ -----Industry Code Loop, DE=Signal Code, Data  
\*1~ -----Industry Code Loop, 79=Priority Code Designator, Data  
\*P~ -----Hierarchical Loop, ID Number, P=Pack  
H\*CF1573235473155123456123~ --Reference, JH=Tag, Data (RFID)  
\*0001~ -----Transaction Set Trailer, 20=Number of Segments, Control





# DSS Criteria

- Stringent DS compliance
- Exclusively X12
- Full capability for parsing and formatting of transactions and envelopes (not mere UDF)
- Utilize MQ Series to exchange X12 with DAASC
- X12 exchange is exclusive with DAASC
- X12 transactions are inherently “MILsish” data
- Some expanded data evolution (i.e.; UII & RFID)



# DAASC

- Maintains profiles for all trading partners
- Translates DLMS to/from DLSS
- Translates X12 versions
- Translates X12 to/from XML
- Maintains translation maps (proprietary)
- Participates in interface testing
- Recommend involving them at every step



# DSS Design

- New front end does all X12 parsing, formatting, enveloping, transmitting, and transaction history maintenance (inbound & outbound).
- X12 knowledge base, common/reusable code, enhancements, maintenance, and compliance.
- All analysts and programmers understand X12 transactions but their applications utilize only consistently positioned parsed “data” (via unique data structures on common databases).



# DSS Design (continued)

- DSS is “bi-lingual” for both DLSS & DLMS transaction processing.
- Can accept and process inbound transactions in either format based merely upon their arrival.
- Can format and transmit outbound transactions in either format by 3 position DLSS DIC (via an internal DSS table).

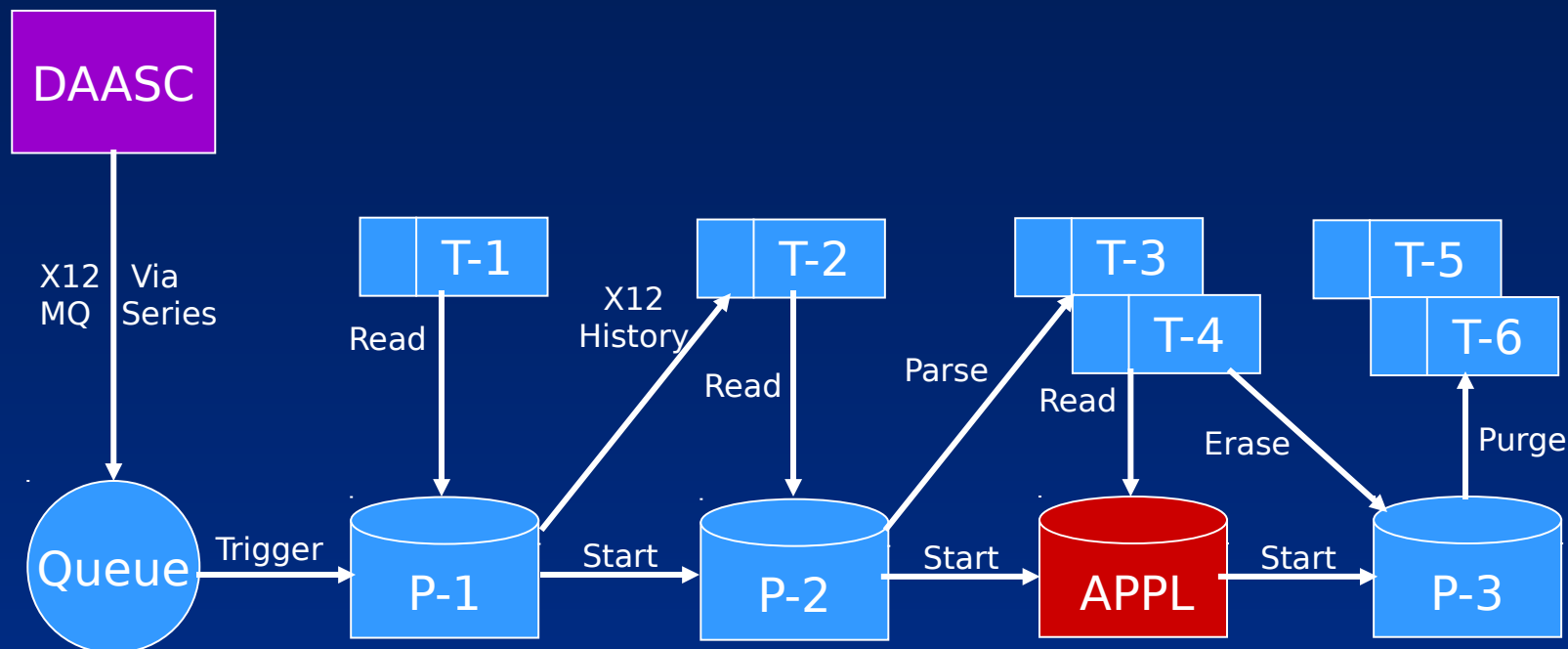


# DSS Design (summary)

- 200+ DLSS Transactions incorporated into 23 DLMS Transaction Sets.
- Individual application programs have been taught to accept and/or generate either DLSS transactions or parsed DLMS data.
- Front end process does all parsing, formatting, enveloping, transmitting, and transaction history maintenance.



# DSS Inbound Transaction Flow



## Database Tables:

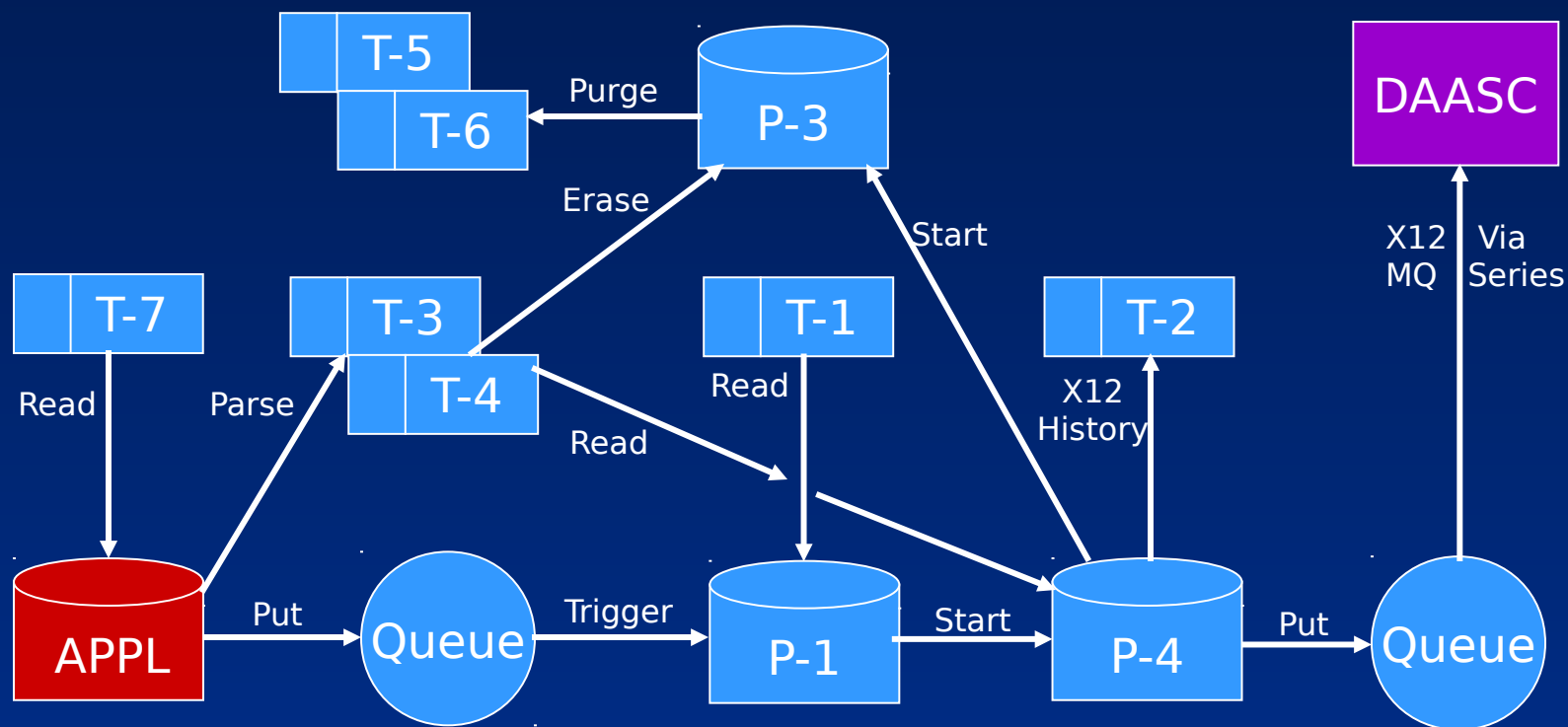
T-1 = Control Table (X12 to P-2 cross reference)  
T-2 = X12 History Table (X12 footprint)  
T-3 = Parsed Transaction Data  
T-4 = Parsed Transaction Repeating Data  
T-5 = Archived T-3 Data  
T-6 = Archived T-4 Data

## Programs:

P-1 = Accepts X12 from Q, reads T-1, records footprint to T-2, starts P-2  
P-2 = Reads X12 from T-2, parses, records to T-3/4, starts APPL  
Note: Separate P-2s exist for each transaction set (by 3 position DS)  
APPL = Respective DSS Applications (MRO, Receiving, Inventory, etc)  
P-3 = Purges record from T-3/4 and creates archive records on T-5/6



# DSS Outbound Transaction Flow



## Database Tables:

T-1 = Control Table (X12 to P-4 cross reference)

T-2 = X12 History Table (X12 footprint)

T-3 = Parsed Transaction Data

T-4 = Parsed Transaction Repeating Data

T-5 = Archived T-3 Data

T-6 = Archived T-4 Data

T-7 = Control Table (MILs or DLMS by 3 pos MILs)

## Programs:

P-1 = Accepts record from Q, reads T-1, starts P-4

P-3 = Purges record from T-3/4 and creates archive record on T-5/6

P-4 = Reads parsed records from T-3/4, formats X12, puts to Q, starts P-4

Note: Separate P-4s exist for each transaction set (by 3 pos DS)

APPL = Respective DSS Applications (MRO, Receiving, Inventory, etc)



# DSS DLMS / DLSS Transactions

## Inbound

140B = N/A  
315B = N/A  
527D = DU, DW, C2G, C2H, C3C  
527R = DXA, DXB  
650A = C2A, C2B, C2D  
824R = DZG (and semantic rejects)  
842A/R/W = CD4, S7A, W7A  
846P = DJA, DZJ  
846S = DZC  
856 = PK5  
856A = CBF, CDF, CDP, CDY  
856S = AS8  
870S = AB  
888I = DZB  
940R = A2, A5, AC, AF, AK, AM, CGU, ZGU  
997 = N/A

## Outbound

140A = DSM  
140B = N/A  
511R = C01, C0A, CQ1, CQA  
527R = BAY, C2J, C2K, C3D, D4, D6, DRA, DXC  
DXD, DZK, Z6T  
650C = C2F  
824R = DZG  
842A/R/W = CD5, S7A, W7A  
846P = DZM  
846R = DZH, DZN, DZP  
846S = DZD  
856A = TAV, TAW, CBF, CDF, CDP, CDY  
856N = AD  
856S = AS8, BAZ  
861 = PKN, PKP  
867I = D7, DZK  
870S = AE3  
888A = DSA  
888B = N/A  
945A = A6, AE6, AEJ, AG, AR, ASZ, AU  
947I = D8, D9, DAC, DZK





# DLMSO Website

- IC – Implementation Conventions
- DS – DLMS Supplements
- ADC – Approved DLMS Changes
- DLSS to DLMS Cross Reference
- Dictionary
- On-Line Training
- Much More



# References

- DLMSO: <http://www.dla.mil/j-6/dlmso/>
- Envelopes ( ISA / IEA / GS / GE ):  
[http://fedebiz.disa.mil/private/edit/document/guidelines/part10/Part\\_10\\_004030.pdf](http://fedebiz.disa.mil/private/edit/document/guidelines/part10/Part_10_004030.pdf)
- DAASC: Proprietary Maps ( DLSS / DLMS )
- X12 Standards (book):  
4030 is Draft Version 4 Release 3  
Document Number: ASCX12S/99-186



# Steps & Recommendations

- Develop a strong rapport with DLMSO and DAASC
- Obtain training or otherwise become familiar with transactions and enveloping
- Assemble library detailed in “References”
- Determine all DLSS utilized (categorized by inbound or outbound)
- Determine DLMS equivalent transactions for all DLSS transactions utilized (via DLMSO website)
- Gather all applicable DLMS Supplements (via DLMSO website)



# Steps & Recommendations (continued)

- Plan to exchange all transactions with all trading partners exclusively via DAASC (100%)
- Determine extent of intended X12 processing (full X12 with delimiters & envelopes, or UDF, etc)
- Begin discussions with DAASC pertaining to intentions, transmission protocol, design, and interface testing
- Request DAASC's DLSS to DLMS translation maps (these are proprietary)



# Steps & Recommendations (continued)

- Scrutinize every piece of data within your DLSS transactions to ensure it is accommodated within the respective DS and DAASC map (may need PDC)
- Design to incorporate DLMS processing into your actual application functionality to enable future expansion & data capabilities ("think DLMS" vice a mere front end transaction scraper)
- Incorporate into you design an On/Off switch (table) for all outbound transactions (DSS uses full 3 position MILs DIC) – DAASC controls your inbound
- Design and develop your system
- Conduct thorough and extensive unit and interface testing with DAASC



# Questions?